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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,877	09/27/2000	KAZUO ICHIKAWA	107469	7376

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EXAMINER
ZERVIGON, RUDY

ART UNIT	PAPER NUMBER
1763	7

DATE MAILED: 08/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/670,877	ICHIKAWA ET AL.	
	Examiner	Art Unit	
	Rudy Zervigon	1763	

-- The MAILING DATE of this communication appears n the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 May 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Hara et al (U. S. Pat. 5,648,276). Hara et al teaches a CVD system (C_1, C_2; Figure 2; column 7, lines 7-8) provided with a plasma generator (Fig.3, "UE", column 7, lines 15-20) having a plasma generation chamber (Fig. 3 containing "PL"; column 7, lines 15-20) separated from a film deposition chamber (Fig. 3 "QW" and "SW"; column 7, lines 10-15) in which a substrate (1) is arranged. A material gas (Fig.3, "Gas (SiH_4, etc)") is directly supplied into the film deposition chamber, radicals in the plasma are introduced into the film deposition chamber from the plasma generator through introduction holes ("ME", Fig.3), and a thin film ("a-Si:H", column 7, lines 5-10) is deposited on the substrate. A gas feeder ("Gas (Ar, ...)"; Fig.3) is provided to the plasma generator.

Hara et al further teaches a cleaning method whereby a silicon-based film is deposited on a substrate ("a-Si:H", column 7, lines 5-10, lines 65-67), then converting the silicon-based film to a crystalline silicon-based film by laser annealing (column 8, lines 5-11), then depositing a gate insulating film ("SiO_2"; column 8, lines 20-25) on the crystalline film by a CVD system comprised of a separate film deposition chamber and plasma generation chamber as described above. Plasma "cleaning" is discussed as a step prior to forming the gate insulating film (column 13, lines 9-20). Also, see column 14, lines 10-25 and column 17, lines 1-10.

Response to Arguments

3. Applicant's arguments filed May 29, 2002 have been fully considered but they are not persuasive.

4. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies:

Applicant's position that "the lower plate of the [claimed] invention is connected to ground (see page 8, lines 17-18)"

is not recited in the rejected [claims]. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Accordingly, the bottom plate (18, Figure 2) of the claimed invention corresponds directly to the Hara apparatus as stated above. Further, Hara's "mesh electrode" is directly analogous to applicant's "bottom plate" in function and purpose – follow column 14, line 60 column 15, line 6.

5. In response to applicant's argument that Hara does not teach "a cleaning gas feeder to the plasma generation chamber" is not accurate in view of Hara's gas feeders of Figure 3 which shows oxygen "O_2" as one of applicant's claimed cleaning gasses. Concretely, Applicant states in page 8, second paragraph that "[if] the cleaning gas is introduced into the plasma generation chamber 21 by the second gas feeder 28" which directs gas immediately into the "plasma generation chamber" as shown in Figure 2 of the present application, and Hara teaches a cleaning gas as oxygen "O_2" that is also directly introduced into Hara's plasma generation chamber, therefore, the assertion of the Office Action regarding the gas feeder is correct.

6. Regarding Applicant's position that Hara does not teach, as claimed, "generating plasma by use of a cleaning gas in said CVD system at a stage before forming the gate insulating film and emitting only the radicals in the plasma on the crystalline silicon film to clean its surface.", as claimed in claim 3 is inaccurate.. Claim 4/3 requires that the "cleaning gas is a gas selected from the O_2, H_2,...". Specifically, Hara identically teaches cleaning by "hydrogenation" (column 13, lines 4-8; column 14, lines 18-24) which is a "cleaning" process as claimed by hydrogen – Hydrogenate - : to combine or treat with or expose to hydrogen; esp : to add hydrogen to the molecule of (an unsaturated organic compound) - hydrogenation[1]

7. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "The process does not remove impurities from the surface of the film surface.") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

[1] Merriam-Webster's Collegiate Dictionary - 10th Ed. p.568

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (703) 305-1351. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official after final fax phone number for the 1763 art unit is (703) 872-9311. The official before final fax phone number for the 1763 art unit is (703) 872-9310. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (703) 308-0661. If the examiner can not be reached please contact the examiner's supervisor, Gregory L. Mills, at (703) 308-1633.

GREGORY MILLS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700